

***Remarks***

***I. Status of the Claims***

Reconsideration of this Application is respectfully requested. Upon entry of the foregoing amendments, claims 143-171 are pending in the application, with claims 143 and 144 being the independent claims. Claims 109, 110, 112-115, 118-121, 125-128, and 132-142 are cancelled without prejudice to or disclaimer of the subject matter therein. Claims 1-108, 111, 116, 117, 122-124, and 129-131 were previously cancelled without prejudice to or disclaimer of the subject matter therein. Applicants reserve the right to pursue the subject matter of the cancelled claims in one or more related applications. New claims 143-171 are sought to be added. These changes are believed to introduce no new matter, and their entry is respectfully requested.

***II. The Amendments***

New claims 143-171 are directed generally to a glycoengineered, recombinant antibody comprising an Fc region with N-linked oligosaccharides having an increased proportion of bisecting GlcNAc residues, and having increased Fc-mediated cellular cytotoxicity and/or increased Fc receptor binding affinity compared to a corresponding antibody that has not been glycoengineered.

Support for the new claims can be found, *inter alia*, in the claims as filed and in the disclosure as follows:

| CLAIMS | SUPPORT  |
|--------|--|
| 143    | <i>See, e.g.</i> , p. 7, ll. 21-27; p. 8, l. 13-p. 9, l. 4; p. 22, l. 33-p. 23, l. 3 |
| 144    | <i>See, e.g.</i> , p. 21, ll. 15-25; p. 37, l. 31-p. 38, l. 6                        |

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|-------------------------|---|
| 145-147                 | <i>See, e.g.</i> , p. 37, l. 22- p. 38, l. 6; Fig. 9; p. 8, ll. 22-25           |
| 148-151                 | <i>See, e.g.</i> , p. 7, ll. 14-16; p. 11, l. 1-p. 12, l. 15; p. 23, ll. 12-26  |
| 152-155, 157<br>and 163 | <i>See, e.g.</i> , p. 22, l. 33-p. 23, l. 26                                    |
| 156                     | <i>See, e.g.</i> , p. 9, l. 6; Example 4  |
| 158                     | <i>See, e.g.</i> , Examples 3 and 4   |
| 159                     | <i>See, e.g.</i> , Examples 1-6   |
| 160, 165                | <i>See, e.g.</i> , p. 23, ll. 9-12  |
| 161                     | <i>See, e.g.</i> , p. 7. l. 24  |
| 162                     | <i>See, e.g.</i> , Example 3  |
| 164                     | <i>See, e.g.</i> , p. 13, ll. 18-30   |
| 166                     | <i>See, e.g.</i> , p. 15, ll. 25-27   |
| 167                     | <i>See, e.g.</i> , p. 15, l. 26   |
| 168                     | <i>See, e.g.</i> , p. 37, ll. 19-21   |
| 169                     | <i>See, e.g.</i> , p. 15, ll. 5-8; p. 21, l. 15- p. 22, l. 22; Examples 3 and 4 |
| 170, 171                | <i>See, e.g.</i> , p. 7, ll. 14-16; p. 21, ll. 15-25                            |

These changes are believed to introduce no new matter, and their entry is respectfully requested.

Based on the above amendment and the following remarks, Applicants respectfully request that the Examiner reconsider all outstanding objections and rejections and that they be withdrawn.

***III. The Rejections***

***A. Rejections under 35 U.S.C. § 112, second paragraph***

Claims 134, 135, and 137-139 have been rejected under 35 U.S.C. § 112, second paragraph, as allegedly failing to particularly point out and distinctly claim the subject matter which the Applicants regard as the invention. Office Action at page 2. Without acquiescing to the propriety of the rejection and in the interest of expediting prosecution, Applicants have deleted claims 134, 135, and 137-139. The rejection is thereby rendered moot and Applicants respectfully request that it be reconsidered and withdrawn.

***B. Rejections under 35 U.S.C. § 112, first paragraph***

Claims 109, 110, 112-115, 118-121, 125-128, and 132-142 have been rejected under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the written description requirement. Office Action at page 3. Applicants respectfully traverse this rejection. Applicants disagree that the claims lack written description support for reasons already provided. However, solely in an effort to facilitate prosecution, and not in acquiescence to the Examiner's rejection, claims 109, 110, 112-115, 118-121, 125-128, and 132-142 have been cancelled.

New claims 143-169 are directed generally to a glycoengineered, recombinant antibody that has an increased proportion of bisecting GlcNAc on the N-linked oligosaccharides in the Fc region, and has increased Fc-mediated cellular cytotoxicity and/or increased Fc receptor binding compared to a corresponding antibody that has not been glycoengineered.

The present specification describes that an increase in bisecting GlcNAc residues in the Fc region of glycoengineered antibodies correlates with an increase in Fc receptor

binding and increased Fc mediated cellular cytotoxicity. Specification at pages 9-10, page 22, lines 23-32; and page 31, lines 11-29. Accordingly, the claims have sufficient written description support. Applicants therefore respectfully request that the rejection under 35 U.S.C. § 112, first paragraph, be reconsidered and withdrawn.

**C. Rejections under 35 U.S.C. § 102**

**1. Kilmartin *et al.***

Claims 109, 110, 114, 118, 133, 135, 136, and 140-142 have been rejected under 35 U.S.C. 102 (b) as allegedly anticipated by Kilmartin *et al.* (J. Cell. Biol., 1982) as evidenced by Shinkawa *et al.* (JBC, 2003). Office Action at page 7. Applicants respectfully traverse this rejection. Solely in an effort to advance prosecution, and not in acquiescence to the Examiner's rejection, claims 109, 110, 114, 118, 133, 135, 136, and 140-142 have been canceled. Applicants further submit that new claims 143-171 are not anticipated by Kilmartin *et al.*

The Examiner asserts that, "product-by-process claims are not limited to the manipulations of the recited steps" and that, as such, "the antibodies of Kilmartin et al are still considered to inherently have all of the limitations recited in the instant claims for reasons made of record." Office Action at page 8 (citing M.P.E.P. § 2113). Applicants respectfully disagree. The recitation of source limitations in a product claim does not render it a "product-by-process" claim. *Amgen Inc., v. Hoechst Marion Roussel Inc.*, 314 F.3d 1313, 1330 (Fed. Cir. 2003) (the disputed claim language "limit[s] only the source from which the [product] is obtained, not the method by which it is produced.").

Furthermore, Kilmartin *et al.* do not disclose each and every limitation of the claimed invention. The new claims recite a glycoengineered, recombinant antibody comprising an Fc region with increased bisecting GlcNAc residues and increased Fc-mediated cellular cytotoxicity and/or increased Fc receptor binding compared to a corresponding antibody that has not been glycoengineered. Kilmartin *et al.* produced monoclonal antibodies by generating hybrid myeloma fusion cell lines using YB2/0 cells. They do **not** describe a **glycoengineered, recombinant** antibody that has an Fc region with increased bisecting GlcNAc residues and increased Fc-mediated cellular cytotoxicity and/or Fc receptor biding affinity compared to a non-glycoengineered antibody. Accordingly, Kilmartin *et al.* do not anticipate the claimed invention, and Applicants respectfully request that the rejection be reconsidered and withdrawn.

**2. Rothman *et al.***

Claims 109, 110, 114, 118, 125-128, 133, 135, 136, 138, and 140-142 have been rejected under 35 U.S.C. 102 (b) as allegedly anticipated by Rothman *et al.* (Mol. Immunol., 1989) as evidenced by Shields *et al.* (JBC, 2002) and Wright *et al.* (TIBTECH, 1997). Office Action at page 9. Applicants respectfully traverse this rejection. Solely in an effort to advance prosecution, and not in acquiescence to the Examiner's rejection, claims 109, 110, 114, 118, 125-128, 133, 135, 136, 138, and 140-142 have been canceled. Applicants respectfully submit that new claims 143-171 are not anticipated by Rothman *et al.*

Rothman *et al.* do not disclose each and every limitation of the claimed invention because Rothman *et al.* do **not** teach a **glycoengineered, recombinant** antibody that has an Fc region with increased bisecting GlcNAc residues and increased Fc-mediated

cellular cytotoxicity and/or Fc receptor biding affinity compared to a non-glycoengineered antibody. Accordingly, Rothman *et al.* do not anticipate the claimed invention and Applicants respectfully request that the rejection be reconsidered and withdrawn.

**D. *Rejections for Obviousness-Type Double Patenting***

The Office has rejected claims 109, 110, 120, and 133 on the ground of non-statutory obviousness-type double patenting over claims 113-116 and 225-258 of co-pending Application No. 10/981,738.

The Office has rejected claims 109, 110, 114, 115, and 133 on the ground of non-statutory obviousness-type double patenting over claims 96-98, 108-111, 213, 261-263, 256-258, and 277-276 of co-pending Application No. 10/761,435.

The Office has rejected claims 109, 114, 115, 128, and 133 on the ground of non-statutory obviousness-type double patenting over claims 74-85 of co-pending Application No. 10/633,697.

The Office has rejected claims 109 and 133 on the ground of non-statutory obviousness-type double patenting over claim 127 of co-pending Application No. 10/437,388.

To the extent these rejections may apply to the newly-added claims, Applicants respectfully request that these rejections be held in abeyance until otherwise allowable claims are identified, at which time Applicants will consider filing a Terminal Disclaimer.

***Conclusion***

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicants believe that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment and Reply is respectfully requested.

Respectfully submitted,

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